

### **DETAILED ACTION**

1. This action is responsive to amendment filed 3/5/2010.

#### ***Response to Remarks/Amendment***

2. Applicant's remarks/amendment, see page 7-9, filed 3/5/2010, with respect to claims 18-32, 34-35, 37-38 have been fully considered and are persuasive. As a result, claims 18-25, 28-32, 34-35, 37-28 are now indicated allowable. However, in order to advance prosecution in the case an examiner's amendment was considered necessary, to overcome some minor claim deficiency.
3. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Mr. Alan M. Weisberg on 3/18/2010.

The application has been amended as follows:

#### **IN THE CLAIMS:**

Claims 26 and 27 stand cancelled.

Claim 18 has been replaced with the following:

-- 18. (Currently Amended) A method comprising:  
applying forward error coding to a signaling message to generate a coded fast signaling message;

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MPSK mapping the coded signaling message to produce an MPSK mapped coded signaling message;

encoding symbols of the MPSK mapped coded signaling message using Differential Space-Time Block Coding (D-STBC) in a time direction to generate encoded symbols;

mapping the encoded symbols of the MPSK mapped coded signaling message onto a plurality of sub-carriers within an OFDM frame comprising a plurality of OFDM symbols; and

transmitting the encoded symbols on a plurality of transmit antennas, with the encoded symbols being transmitted at an increased power level relative to other symbols within the OFDM frame as a function of channel conditions. --

Claim 28, line 4, after “symbols from the OFDM” the word “signal(s)” has been replaced with -- signal --.

Claim 28, line 5, after “signaling message symbols” the word “where” has been replaced with -- whether --.

Claim 34, line 1-2, after “An article of manufacture comprising a” the term “computer-readable storage medium, the computer-readable storage medium” has been replaced with -- non-transitory computer-readable storage medium, the non-transitory computer-readable storage medium --.

Claim 35, line 1-2, after “An article of manufacture comprising a” the term “computer-readable storage medium, the computer-readable storage medium” has been replaced with -- non-transitory computer-readable storage medium, the non-transitory computer-readable storage medium --.

Claim 38, line 9-10, after “symbols in the scattered pilot pattern;” the phrase “and determining a channel response for the encoded symbols using decision feedback,” has been deleted.

***Allowable Subject Matter***

4. Claims 18-25, 28-32, 34-35, 37-28 allowed.

***Reason for Allowance***

5. The following is an examiner’s statement of reasons for allowance:

The prior art of record, either considered alone or in combination, neither teaches nor renders obvious a method in combination with other claimed limitations comprising: applying forward error coding to a signaling message to generate a coded fast signaling message; MPSK mapping the coded signaling message to produce an MPSK mapped coded signaling message; mapping the MPSK mapped coded signaling message onto a plurality of sub-carriers within an OFDM frame comprising a plurality of OFDM symbols; encoding symbols of the MPSK mapped coded signaling message using Differential Space-Time Block Coding (D-STBC) in a time direction to generate encoded symbols; and transmitting the encoded symbols on a plurality of transmit antennas, with the encoded symbols being transmitted at an increased power level relative to other symbols within the OFDM flame as a function of channel conditions. Such limitations as recited in the independent claims 1, is neither anticipated nor rendered obvious by the prior art of record.

The prior art of record, either considered alone or in combination, neither teaches nor renders obvious an OFDM receiving method in combination with other claimed

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limitations comprising: an OFDM signal containing received D-STBC coded MPSK mapped coded signaling message symbols; recovering received signaling message symbols from the OFDM signal; determining from the signaling message symbols whether a current OFDM transmission contains data to be recovered by the receiver; upon determining the current OFDM transmission contains data to be recovered by the receiver: a) re-encoding, MPSK mapping and D-STBC coding the received coded signaling message symbols to produce re-encoded D-STBC coded MPSK mapped coded signaling message symbols; b) determining a channel estimate by comparing the received D-STBC coded mapped coded signaling message symbols with the re-encoded D-STBC coded MPSK mapped coded signaling message symbols. . Such limitations as recited in the independent claim 28, is neither anticipated nor rendered obvious by the prior art of record.

The prior art of record, either considered alone or in combination, neither teaches nor renders obvious a channel response from an OFDM frame containing an encoded fast signaling message comprising:

processing the encoded symbols based on a scattered pilot pattern to recover the encoded fast signaling message as a recovered encoded fast signaling message; re-encoding the recovered fast signaling message so as to produce known pilot symbols in the scattered pilot pattern; wherein processing the encoded symbols comprises: differentially decoding the encoded symbols using Differential Space-Time Block Coding (D-STBC) decoding to recover the encoded fast signaling message; applying Forward Error Correction decoding to the encoded fast signaling message to recover a fast

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signaling message; and analyzing the fast signaling message to determine whether it includes a desired user identification; if the fast signaling message includes the desired user identification, re-encoding the recovered fast signaling message comprises: re-encoding the fast signaling message using Forward Error Correction coding to generate the encoded fast signaling message, and re-encoding the encoded fast signaling message using D-STBC. Such limitations as recited in the independent claim 38, is neither anticipated nor rendered obvious by the prior art of record.

Claims 19-25, 29-32, 34-35 and 37 are allowed by virtue of their dependency to claims highlighted above.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### ***Contact Information***

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Qutbuddin Ghulamali whose telephone number is (571)-272-3014. The examiner can normally be reached on Monday-Friday, 7:00AM - 4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chieh M. Fan can be reached on (571) 272-3042. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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QG.

March 18, 2010.

/CHIEH M FAN/

Supervisory Patent Examiner, Art Unit 2611